

Hookah and E-cigarettes: What you should know



Presented By: Mary Martinasek, PhD, RRT, AE-C



Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

Prevalence

Concerns

FDA



Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

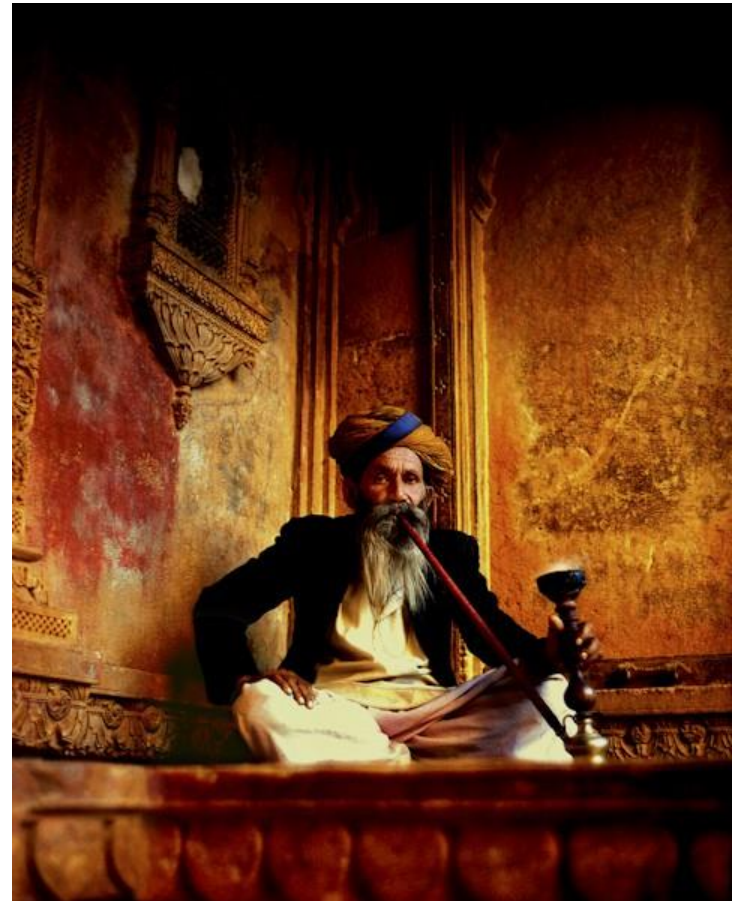
Prevalence

Concerns

FDA

Hookah Smoking

- Centuries old tradition



Egypt or Saudi Arabia



“Shisha, Boory or Goza”



Africa

“Hookah”



**Israel,
Jordan or
Lebanon**

“Narghile or Arghile”



Persia

“Quylan”



Albania

“Lula or Lulava”



Background

Function and usage

Concerns

Prevalence

Lure

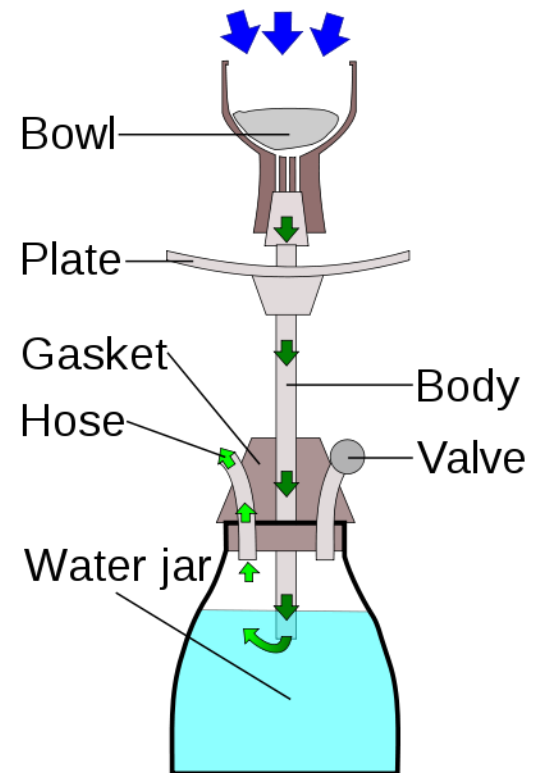
Effects and research

E-cigarette device

Prevalence

Concerns

FDA



Waterpipe Tobacco

- **Maassel** – flavored tobacco
 - Shisha



Shisha Packaging









A HOOKAHJOHN AND COCOBRICO COLLABORATION

TITANIUM

COCONUT COALS

Hookah Harmony
THE WORLDS FINEST COAL, FOR
THE PERFECT HOOKAH EXPERIENCE.

108
PIECES

TITANIUM

THE WORLDS FINEST COAL, FOR
THE PERFECT HOOKAH EXPERIENCE.

MADE FROM 100% PURE
NATURAL MATERIALS.

SMOKELESS, ODDORLESS, TASTELESS
& SPARK-LESS.

LASTS LONGER THAN OTHER CHARCOAL.

ECO-FRIENDLY, NOT A SINGLE TREE
WAS FELLED TO MAKE THIS PRODUCT.



MADE IN INDONESIA

Single-hose and Double-hose Hookah Pipes



Multi-hose Hookah Pipe



Portable Hookah Pipe











Portable Hookahs













Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

Prevalence

Concerns

FDA

Hookah as a Gateway





Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

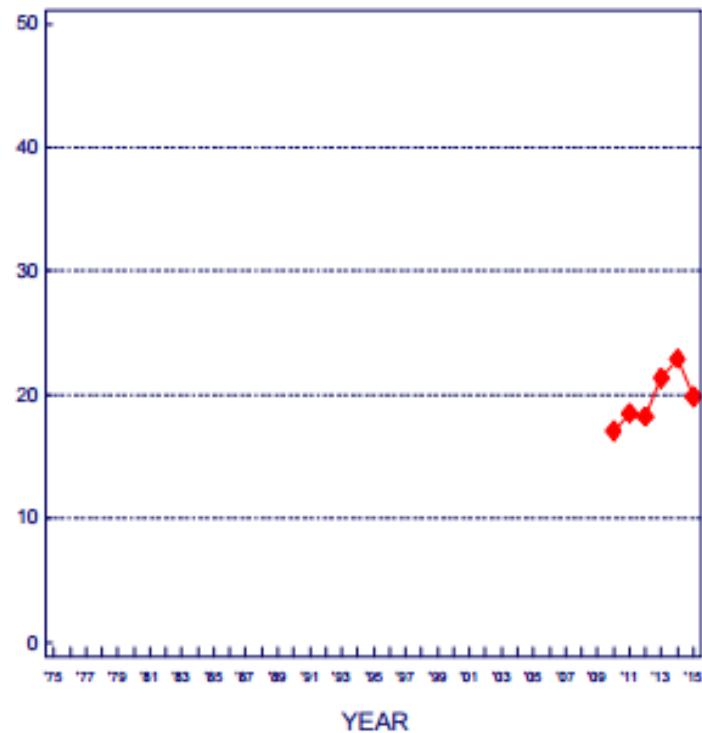
Prevalence

Concerns

FDA

Monitoring the Future

Use of Tobacco with a Hookah
% who used in last 12 months



National college data

105,000 students from 152 universities

30.5% had ever used a waterpipe/hookah

8.4% within the past month





Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

Prevalence

Concerns

FDA

Social Utility




Positive Outcome Expectancies



Ease of access/low cost

Hookah, Hookahs, Shisha, and Hookah Accessories - HookahCompany.com

Page 1 of 2



HookahCompany.com
Better Prices. Better Selection.
760-479-1471

HOOKAHS
SHISHA
CHARCOAL
ACCESSORIES
VALUE PACKS

[Home](#) | [Contact Us](#) | [FAQ](#) | [View Cart](#) | [Member Login](#)

MAIN MENU
Home
Terms of Use
Shipping Information
Order Status
Contact Us
Hookah Information

HOOKAHS
All Hookahs
Shop by Price
Top Sellers

SHISHA
All Shisha
Top Sellers


CHARCOAL
All Hookah Charcoal
Holland Charcoal
Japanese Charcoal
Natural Charcoal

ACCESSORIES
Hookah Hoses
Hookah Bowls
Hookah Tongs
Plastic Tips
Metal Screens
Foil Sheets
Hookah Gaskets
Hookah Brushes
Replacement Vases
Replacement Stems
Replacement Trays
Argille Wind Covers
Hookah Bags / Cases
Charcoal Carriers
Stem Adapters
Stem Plugs
Check Valves
Hose Components
Vase Protectors
Vase Lights

VALUE PACKS
Hookah Value Packs
Shisha Value Packs

Hookah, Hookahs, Shisha, and Hookah Accessories - HookahCompany.com

HOOKAHS



SHISHA



CHARCOAL



ACCESSORIES



Stay up to date with the latest happenings at Hookah Company and receive special offers!

Email:

[Subscribe](#)


Featured Items



Three Kings Hookah Charcoal
33mm - Only \$15.95!



Blue Mist Starburst Shisha
250 Grams - Only \$19.95!



Tangiers Four Value Pack
Only \$44.95!

NEW ITEMS
or
BACK IN STOCK

New Hookahs
(added 10-26-09)

<http://www.hookahcompany.com/>

10/26/2009





Special Appearances



Star Wars Jabba the Hutt Deluxe Figure

by [Star Wars](#)

★★★★★ 6 customer reviews

Price: **\$34.47** + \$4.89 shipping

Only 1 left in stock.

Ships from and sold by [Seaside General Store](#).

Estimated Delivery Date: July 9 - 14 when you choose Standard at checkout.

• Figure comes with weapon accessories.

15 new from **\$34.37** 1 collectible from **\$45.00**



Power Wheels for Boys

from Fisher-Price [See more](#)

Save Big on Power Wheels Items









Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

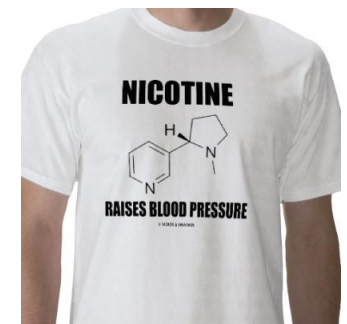
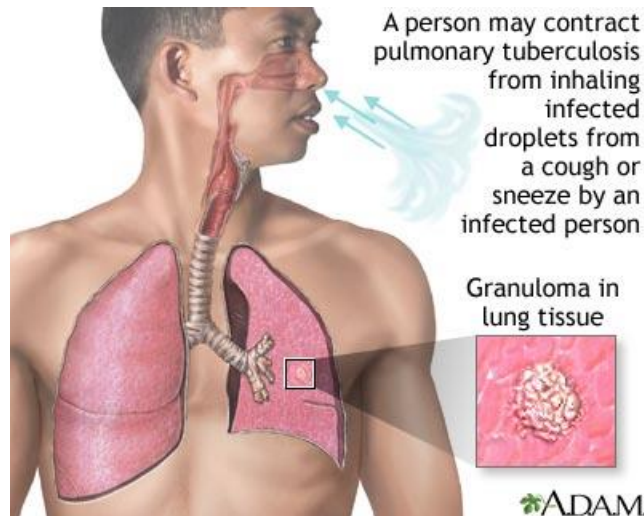
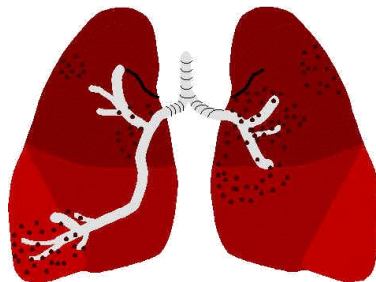
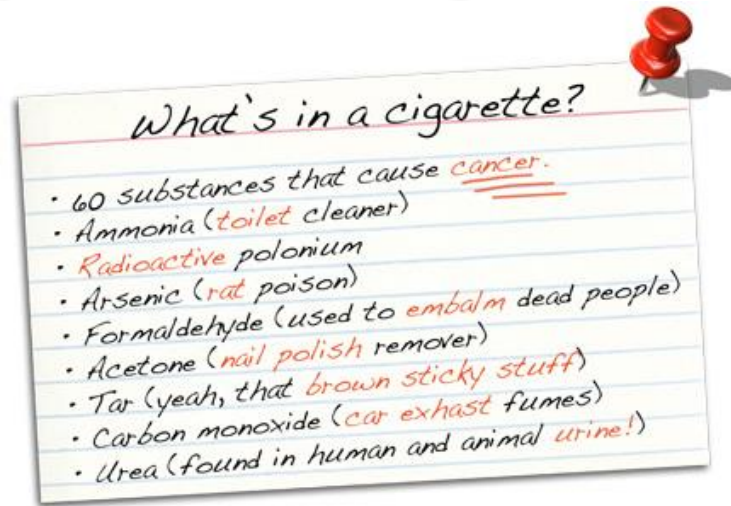
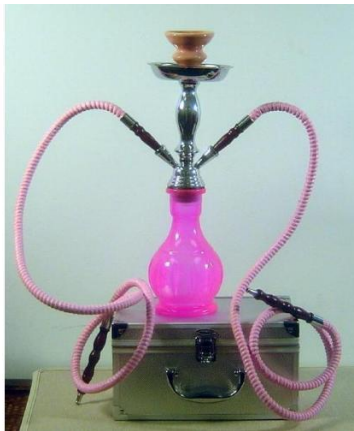
E-cigarette device

Prevalence

Concerns

FDA

Why are we concerned about water pipe smoking?



ER visits from CO toxicity

- 12 visits
- Headache, nausea and lethargy
- ER stay = 1-5 hours



Clarke et al. Prehospital and Disaster Medicine Dec. 2012

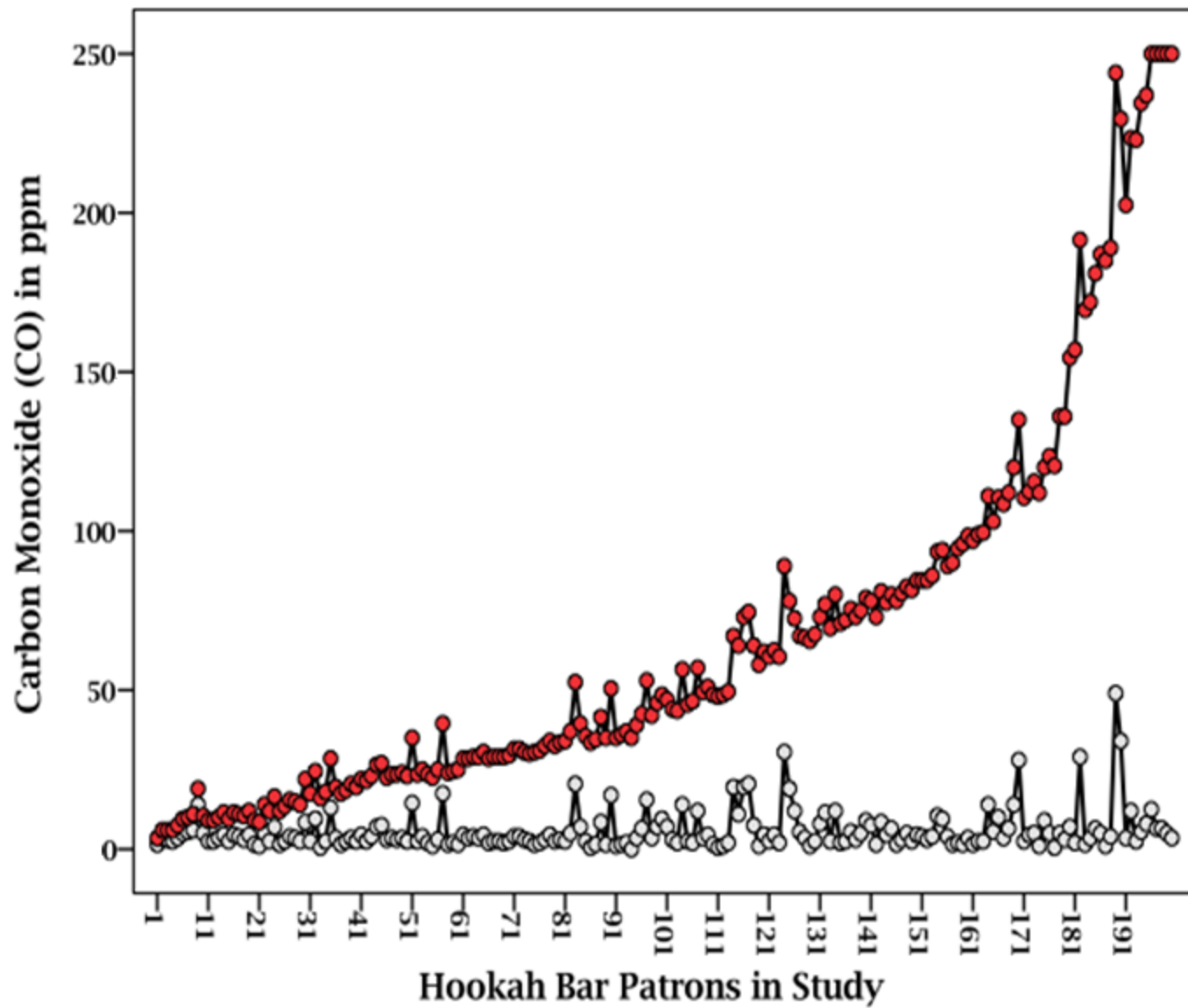
Exhaled CO study

(n=200)

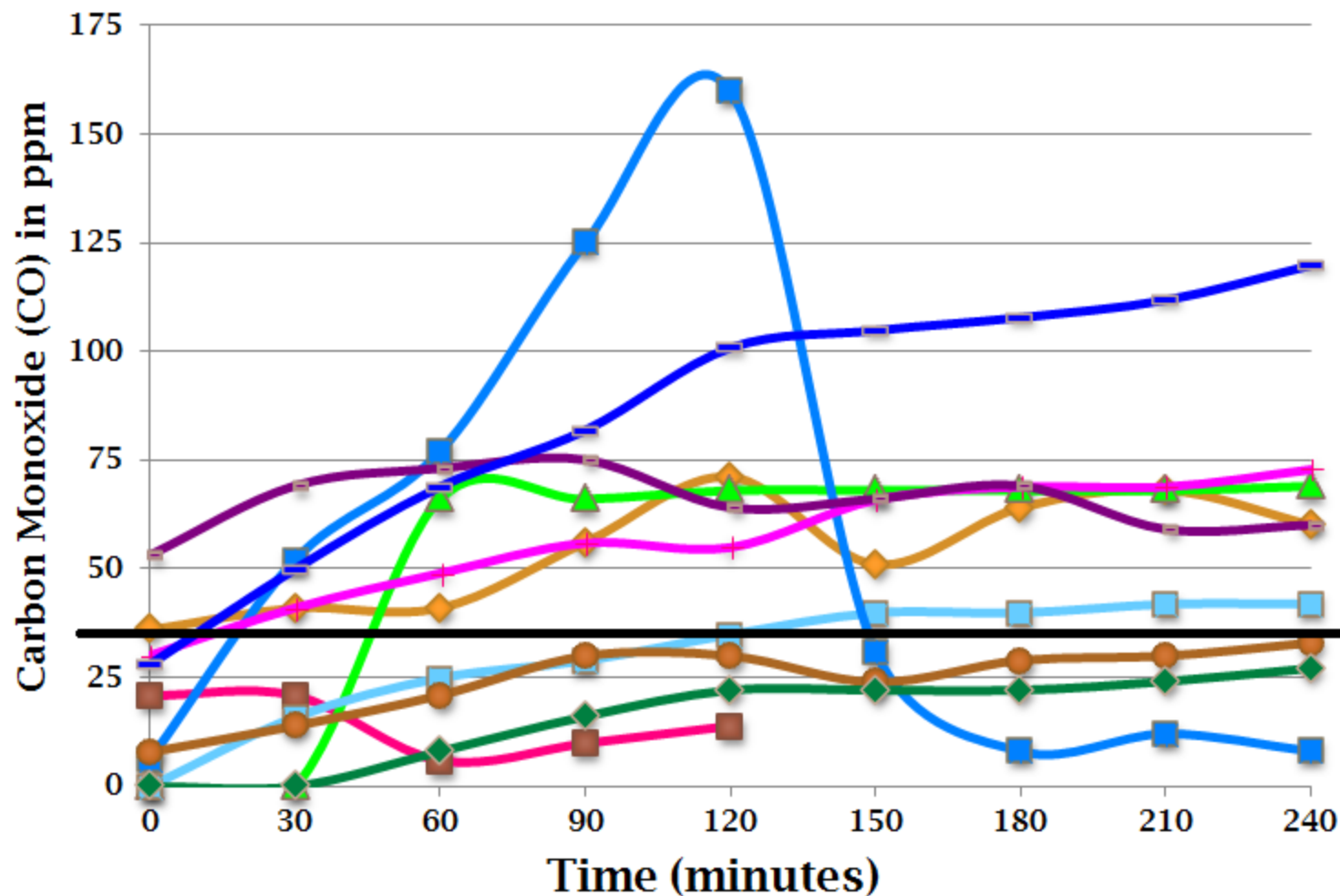
Average smoking time 2 hours



Exhaled Carbon Monoxide (CO) Measurements



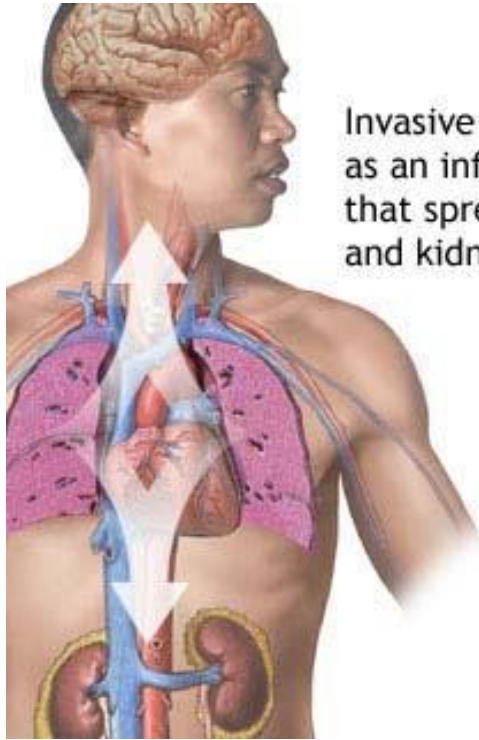
Carbon Monoxide (CO) Measurements Inside Hookah Bar Establishments



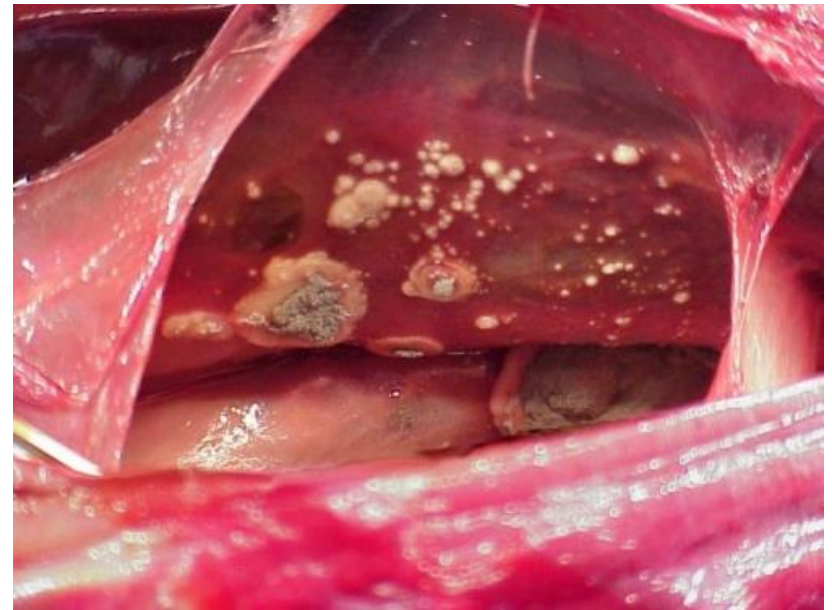


Infectious Diseases

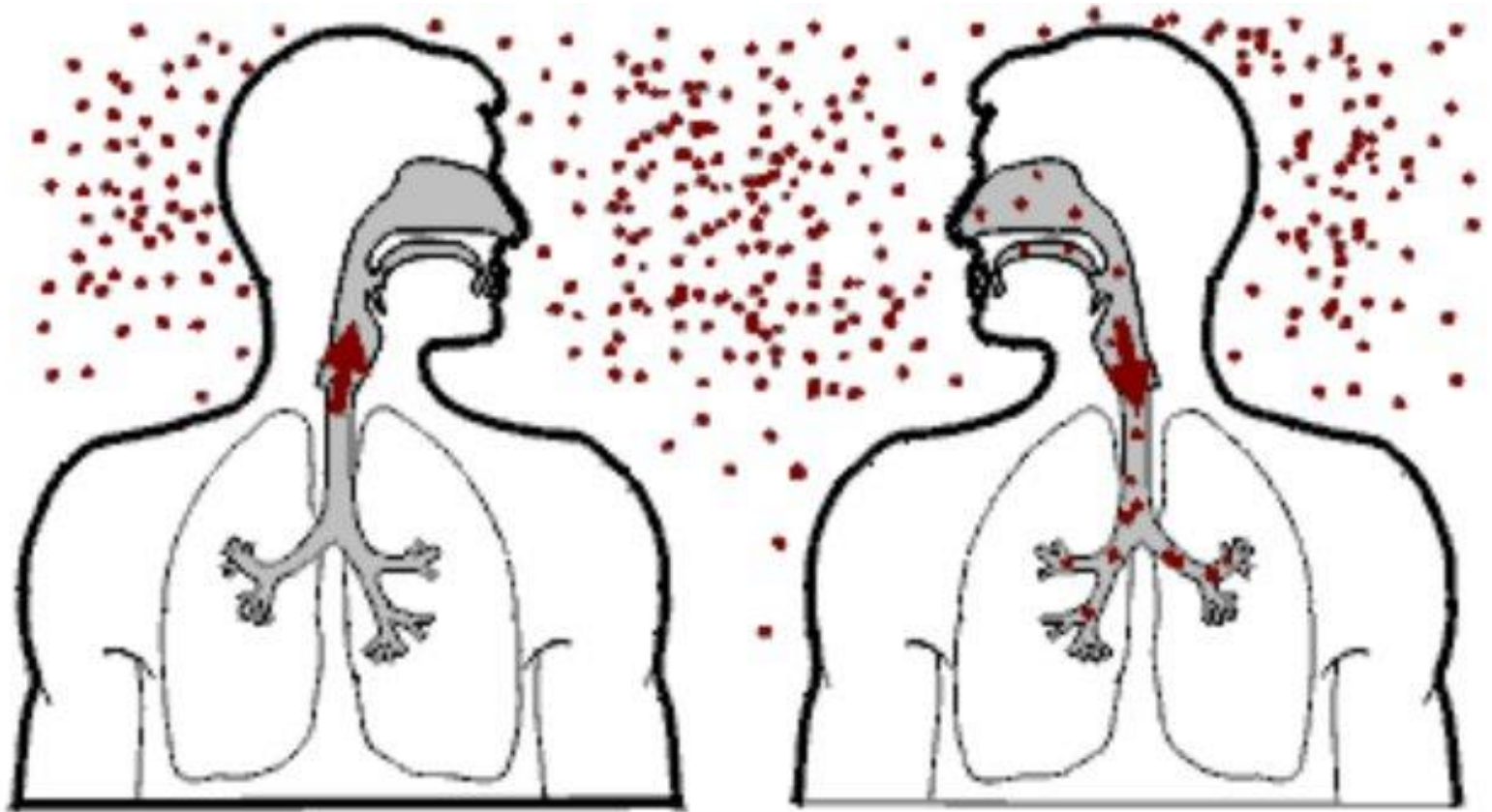
Aspergillosis



Invasive aspergillosis can occur as an infection with pneumonia that spreads to heart, lungs, brain and kidneys via the bloodstream



TB Transmission



Culturing the pipes



Mononucleosis



Acute Eosinophilic Pneumonia

- 15 yo
- 19 yo
- 26 yo
- Recent history of smoking hookah consistently over 3-4 weeks

Long term effects



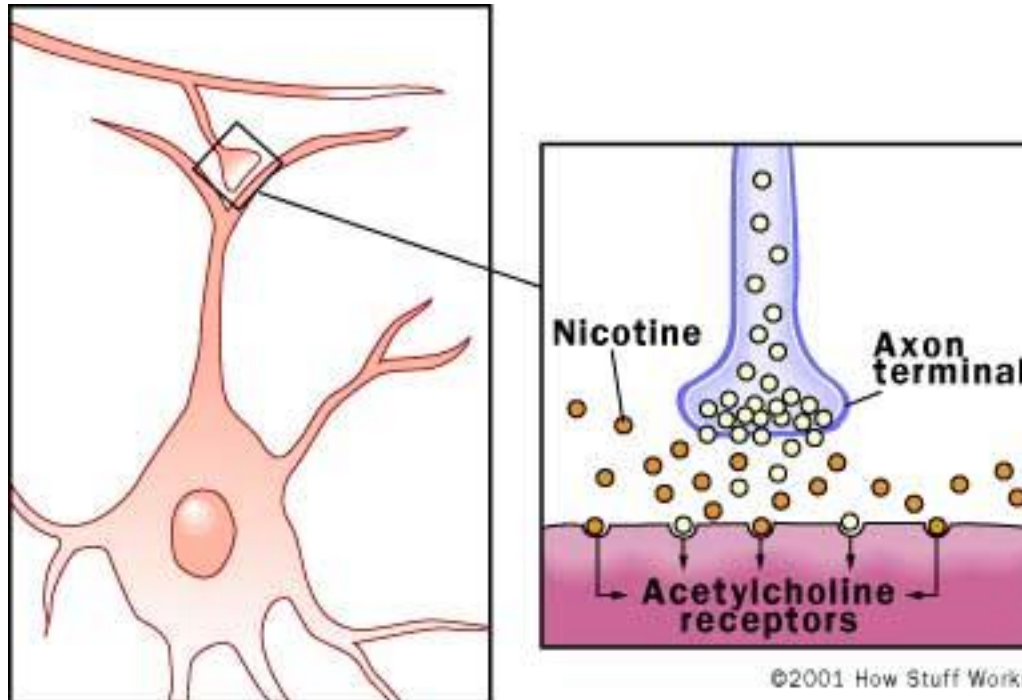
What we do know about hookah smoke?

- One hookah session versus a cigarette
 - 40 times the tar
 - 30 times the carcinogens
 - 2 times the nicotine
 - A lot more carbon monoxide



Blood Nicotine Levels

- Similar to a person who smokes ten cigarettes per day



Is tobacco-free hookah safe?

Tobacco	Non-Tobacco (Tea leaves)
155 mg carbon monoxide	159 mg carbon monoxide
464 mg tar	513 mg tar
Carcinogenic PAH chrysene-106	124
Formaldehyde 59 mcg	117 mcg
Acetone – 118	163



Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

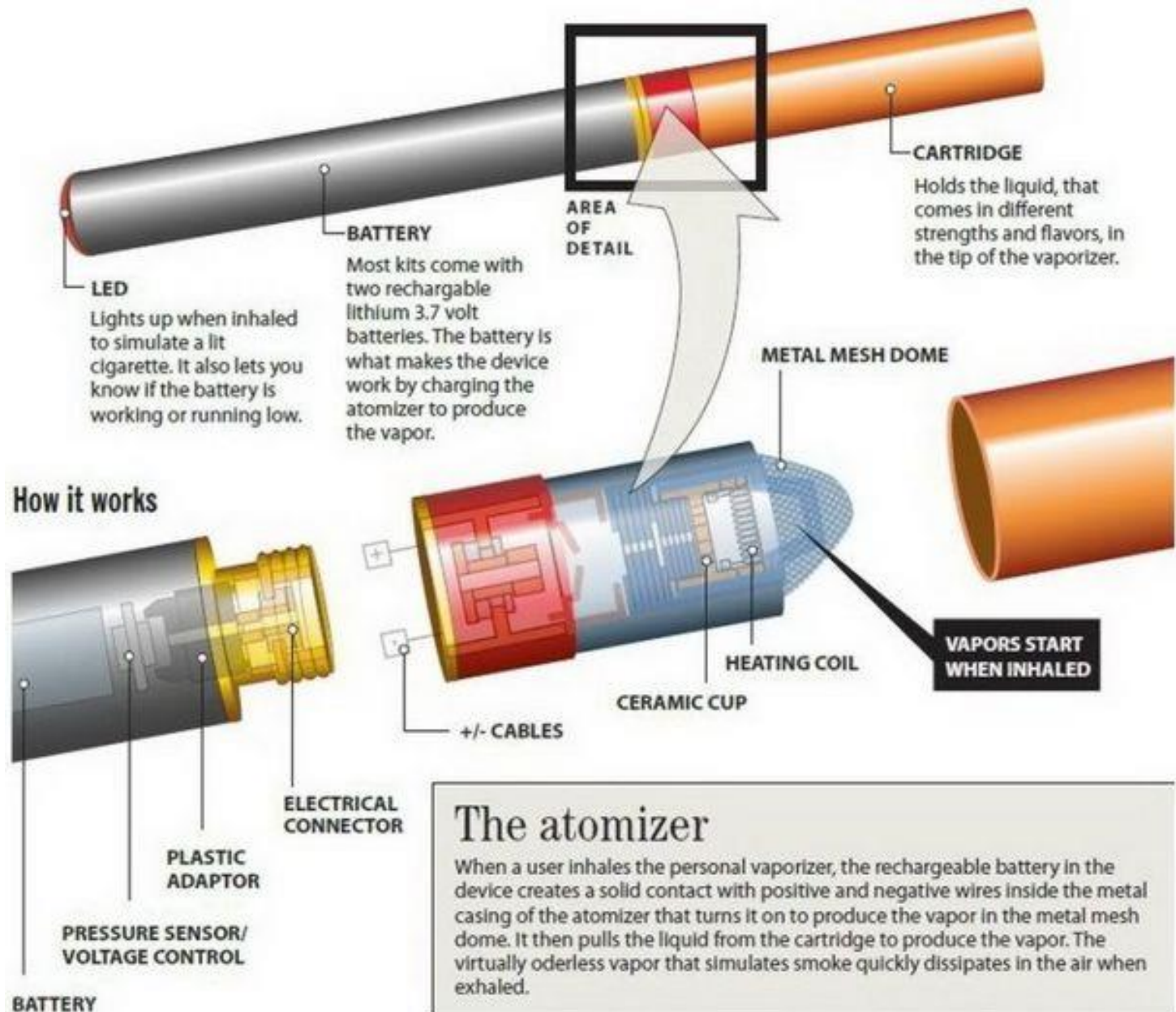
Prevalence

Concerns

FDA

E-CIGARETTES





Types

- Cigalikes



- Advanced personal vaporizers (APV)
 - AKA eGos



- Mods





U.S. Tobacco Companies

Company Name	Brand Examples	Market %	Cigarettes Sold
Philip Morris USA	Marlboro, Basic, Virginia Slims	46.1%	135.1 billion
Reynolds American Inc.	Camel, Doral, Winston, Kool	24.9%	72.9 billion
Lorillard	Newport, Maverick, Kent	13.7%	40 billion
All other companies	USA Gold, Sonoma, Montclair	15.3%	45 billion

Philip Morris' brand



RJ Reynold's brand



Lorilard's brand



Business is soaring

- By January 2014 there were 466 brands (each with its own Internet site)
- 7764 unique flavors

Zhu, et al., 2014 Tobacco Control





Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

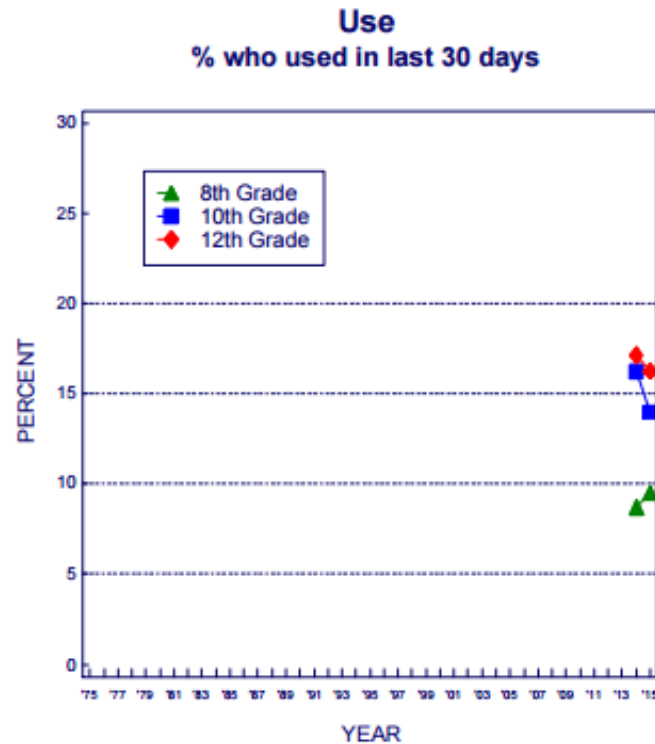
E-cigarette device

Prevalence

Concerns

FDA

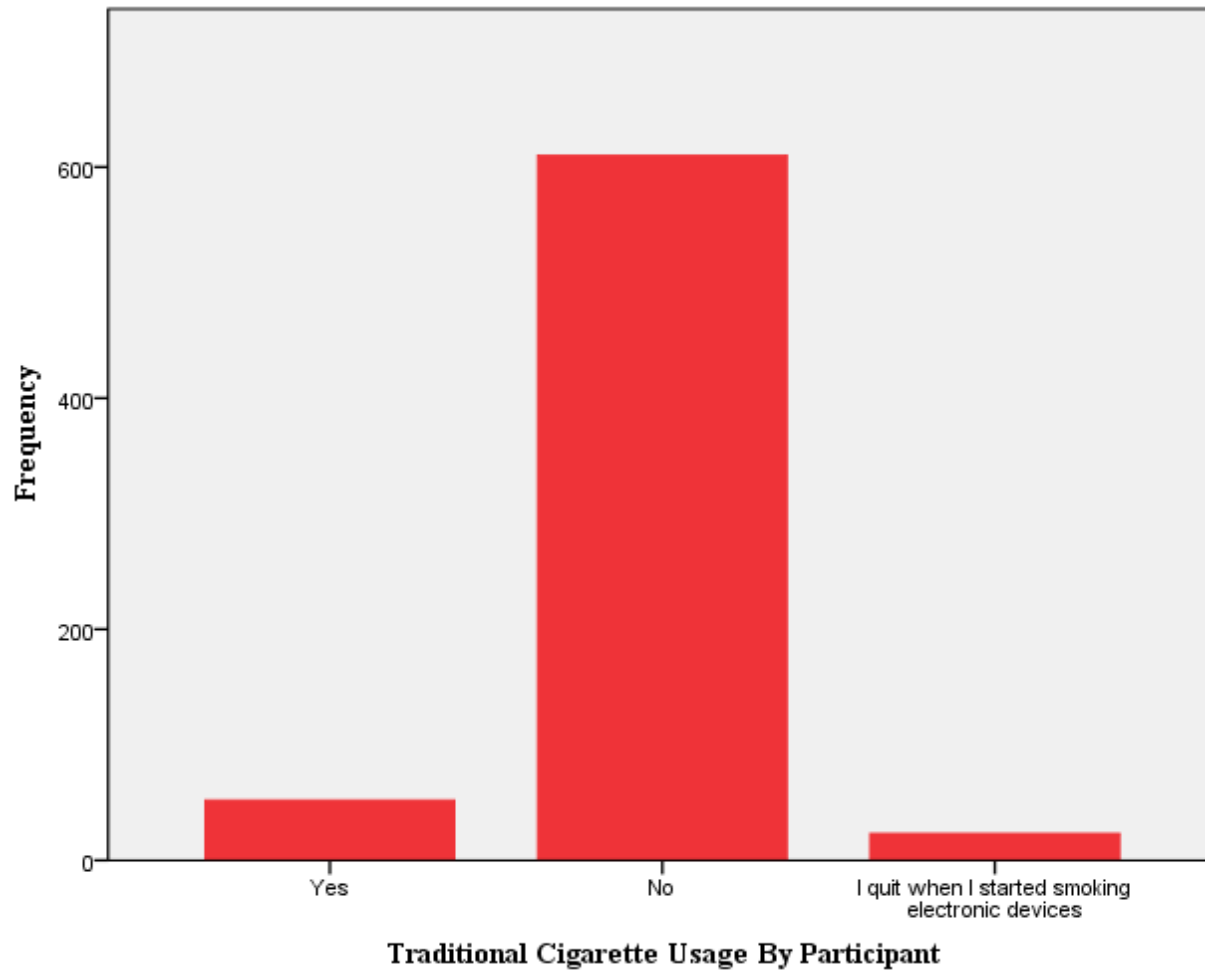
Monitoring the Future



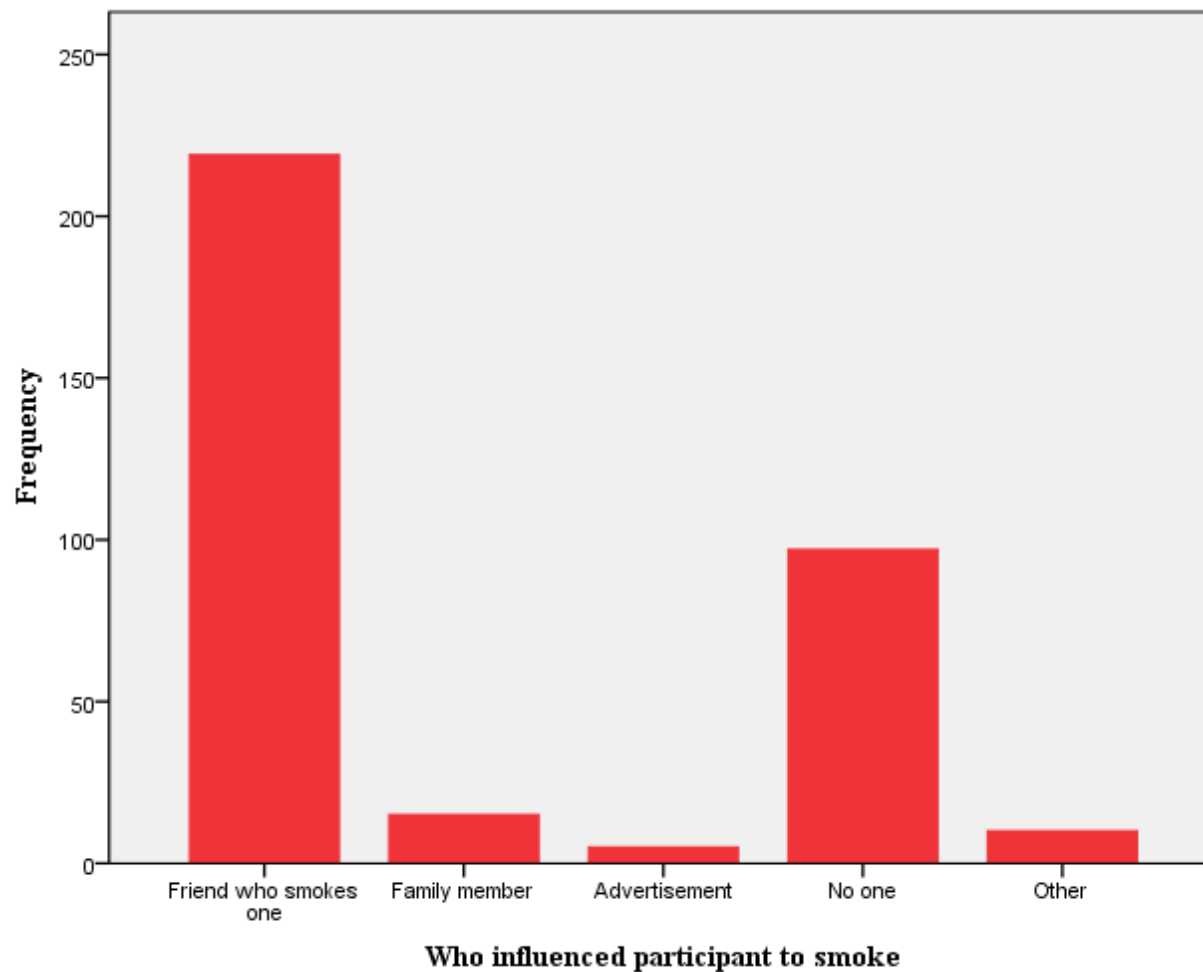
College student e-cig research

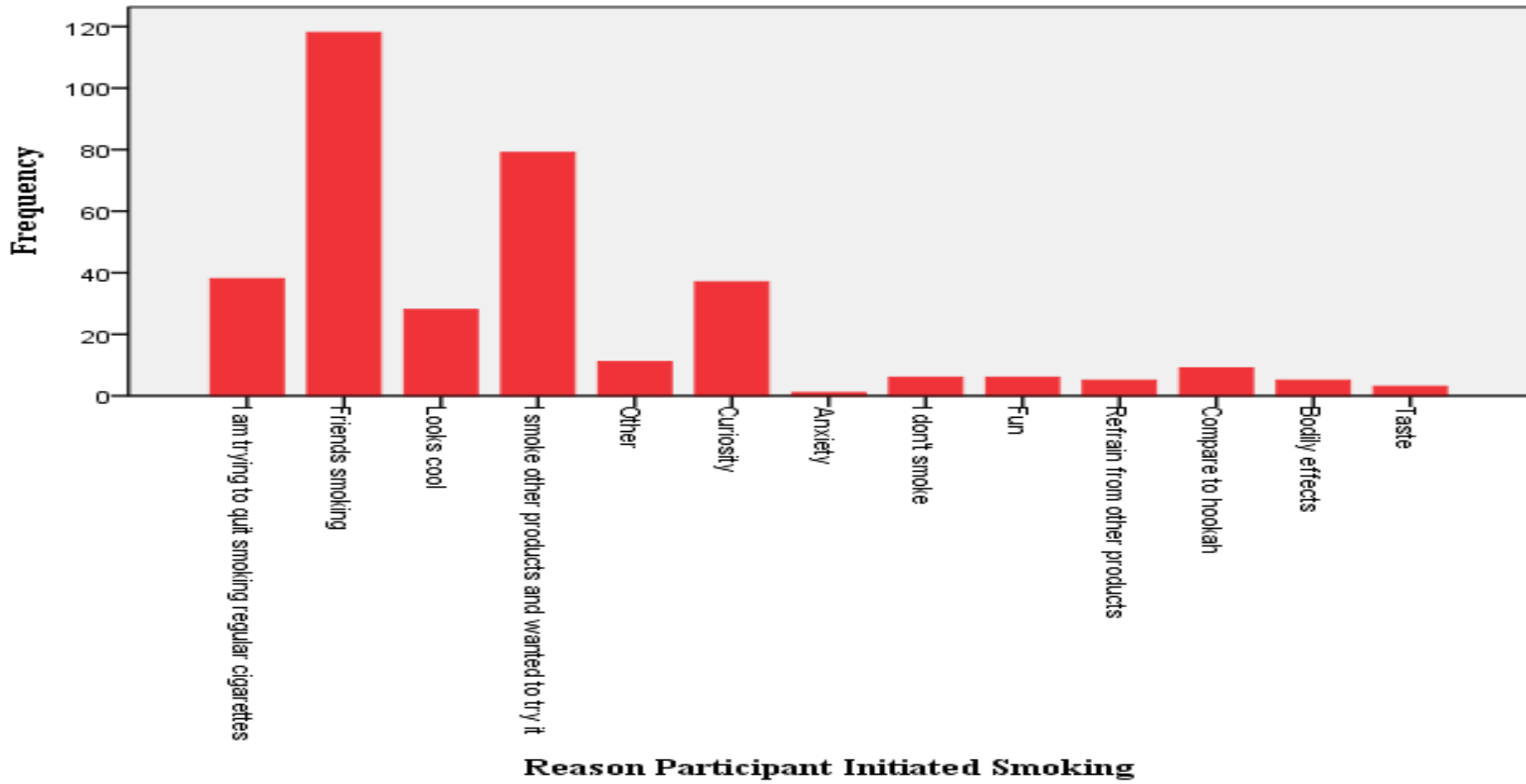
Ever Smoked Electronic Device	Frequency (n)	Percent (%)
Yes	348	46
No	409	54

Traditional cigarette usage



Heard about e-cigs





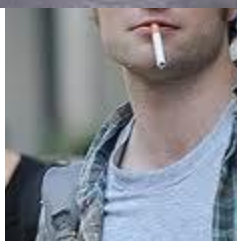
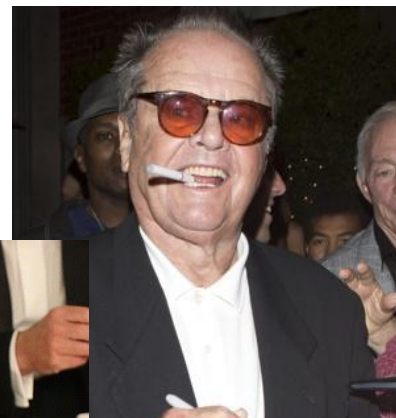
Experiences

	Frequency (n)	Percent (%)
Headache	38	12
Throat burned	59	18
Stomach ache	12	4
Sinus issues	2	0.6
Coughing	79	24
Lungs hurt	9	3

Why the increase in usage?

- Youth access
- Aggressive marketing
- Low price
 - Daily users report spending \$33 vs. \$175/month
- Widespread availability and popularity





Anna Kournikova





Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

Prevalence

Concerns

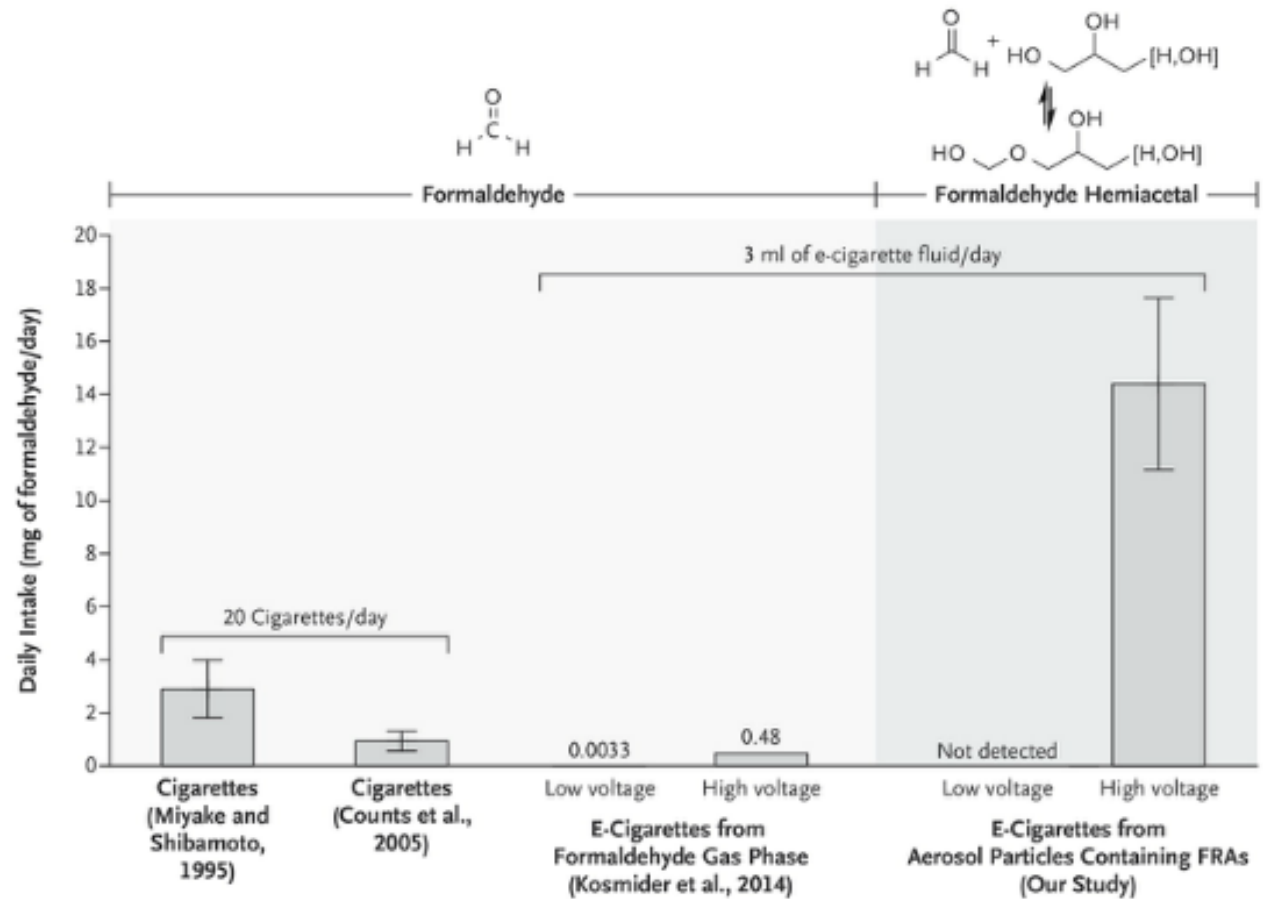
FDA

Physiological Effects (n=12-32)

- Mouth and throat irritation and dry cough at initial use
- No change in heart rate, carbon monoxide (CO) level, or plasma nicotine level
- Increase in respiratory impedance and respiratory flow resistance similar to cigarette use
- No change in lung function
- No change in cardiac function as measured with echocardiogram
- No increase in inflammatory markers

Callahan-Lyon P. Electronic Cigarettes: Human Health effects: Tob Control 2014;23:ii36–ii40. doi:10.1136

Formaldehyde



Direct Dripping

- VA emissions, including formaldehyde, greatly exceeded values previously reported for conventional ECIGs and combustible cigarettes, both per puff and per unit of nicotine yield



Talih, Soha, et al. "'Direct Dripping': A High-Temperature, High-Formaldehyde Emission Electronic Cigarette Use Method." *Nicotine & Tobacco Research* (2015): ntv080.

Air quality study

- n=9
- Gas phase – nicotine and glycerine
- Carcinogenic PAH increased 20%
- Aluminum increased 2.4 fold

During the vaping sessions substantial amounts of 1,2-propanediol, glycerine and nicotine were found in the gas-phase, as well as high concentrations of PM_{2.5} (mean 197 µg/m³). The concentration of putative carcinogenic PAH in indoor air increased by 20% to 147 ng/m³, and aluminum showed a 2.4-fold increase. PNC ranged from 48,620 to 88,386 particles/cm³ (median), with peaks at diameters 24–36 nm. FeNO increased in 7 of 9 individuals. The nicotine content of the liquids varied and was 1.2-fold higher than claimed by the manufacturer.

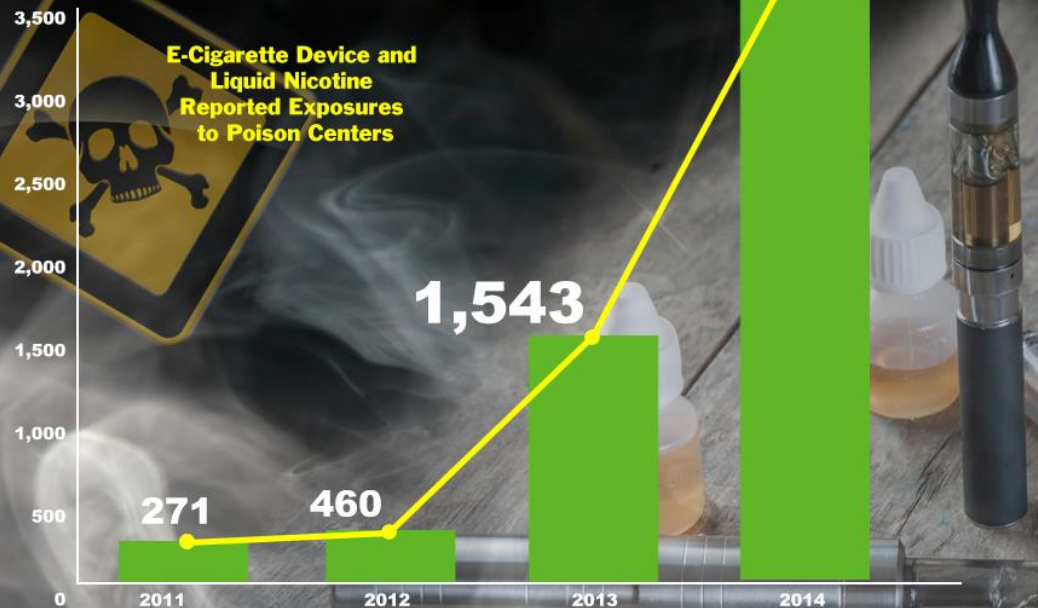
Schober, Wolfgang, et al. "Use of electronic cigarettes (e-cigarettes) impairs indoor air quality and increases FeNO levels of e-cigarette consumers." *International journal of hygiene and environmental health* (2013).

Public Health warns Montanans against using e-cigs

Posted: Feb 25, 2016 11:54 AM EST



Poisoning Calls Related to E-Cigarettes Have Skyrocketed



Our Kids Can't Wait

FDA: Finish the rule to regulate all tobacco products, including e-cigarettes.







Outline

Background

Function and usage

Concerns

Prevalence

Lure

Effects and research

E-cigarette device

Prevalence

Concerns

FDA

In the News

Child Nicotine Poisoning Prevention Act Becomes Law

On January 28th, President Barack Obama signed the *Child Nicotine Poisoning Prevention Act* into law. [Championed by the AAP and child health advocates](#), this law will make great strides in keeping children safe by requiring child-resistant packaging on liquid nicotine containers used to refill e-cigarettes.

According to the American Association of Poison Control Centers, there were 3,067 reported exposures to e-cigarettes and liquid nicotine in 2015, with over half occurring in children under the age of six. One child in upstate New York died from liquid nicotine exposure in 2014. Despite the toxicity of these products, there were no federal requirements for child-resistant packaging of liquid nicotine refills. Now, within six months of the law's enactment, the U.S. Consumer Product Safety Commission will enforce requirements for liquid nicotine containers to have child-resistant packaging, similar to other common household products that are dangerous to children like bleach and prescription medicines.

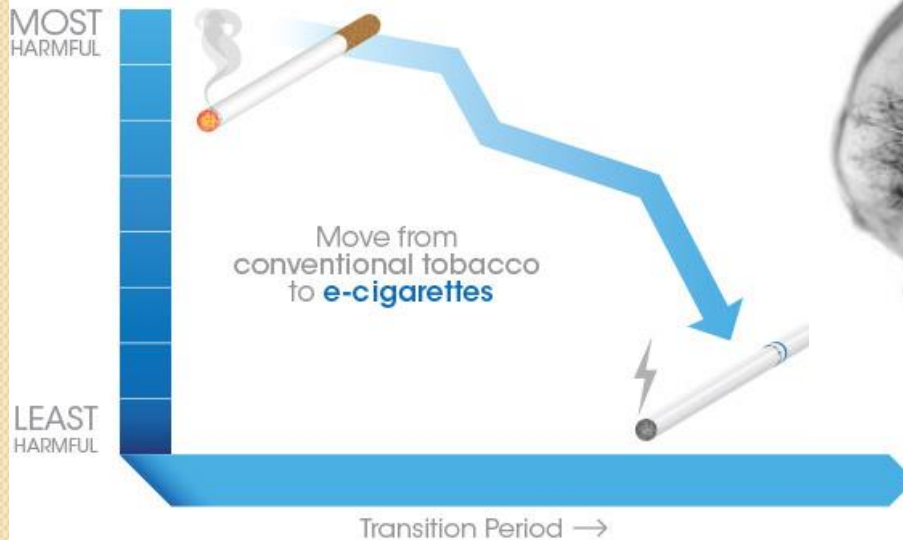


FDA

**Extending Authorities to All Tobacco Products,
Including E-Cigarettes, Cigars, and Hookah**

Two camps

HARM REDUCTION



Addicted To E-Cigarettes



With e-cigarettes there are many unknowns, including the unknown health effects of long-term use. Currently, there are no e-cigarettes approved by FDA for therapeutic uses so they cannot be recommended as a cessation aid. For smokers who want to quit cigarettes there are FDA approved treatments which have been proved to be safe and to work, including:



Counseling

Take home points

- Not merely water vapor
- No quality control – mainly produced in China
- Not enough evidence to support it as a cessation aid
- When heated and vaporized, propylene glycol can form propylene oxide, {International Agency for Research on Cancer class 2B carcinogen}
- Glycerol forms acrolein, which can cause upper respiratory tract irritation
- Like any poison keep bottles away from small children



THANK YOU!

MMARTINASEK@UT.EDU